

**Notice of Allowability**

Application No.

10/712,177

Applicant(s)

WILLIG, REINHARDT L.

Examiner

Art Unit

Brian M. Healy

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed 11/13/2003.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☒ The drawings filed on 13 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 0542205 01202008
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
Brian Healy  
Primary Examiner

## **DETAILED ACTION**

### ***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance: The closest prior art of record, i.e. Stowe et. al., U.S.P. No. 5,138,676. teaches (Figs.1-15) an optical fiber coupler (and method of forming same) formed by input and output optical fibers 136,137 with each fiber having a tapered section 132,134 that are fused together at a fused fiber region 130 for propagating a fundamental mode.

Neither Stowe et. al. 676' or any of the other references of record, teaches a method of forming an optical device comprising: fusing portions of a plurality of optical fibers to form a fused fiber region; cleaving the fused fiber region to form a fused end; forming a spliced fiber by splicing an end of an independent optical fiber to the fused end such that the independent optical fiber is in optical communications with the plurality of the optical fibers and reducing a cross-section of the spliced fiber to form an optical device propagating light with a lowest-order even mode. These method steps are recited in claims 1-15 and are considered to be patentable over the teachings of Stowe et. al. and any of the other references of record.

Neither Stowe et. al. 676', or any of the other references of record, teaches or suggests, an optical device comprising: an input region comprising a portion of a first optical fiber and a portion of a coreless optical fiber; a fused fiber region in optical communications with the input region, a portion of the fused fiber region having a diameter less than the input region; and an output region in optical communications with the fused fiber region with the output region comprising a portion of the first and a

second optical fiber; wherein the input region, the fused fiber region and the output region propagates a lowest -order even mode. These optical device limitations are recited in claims 16-28 and are considered to be patentable over the teachings of Stowe et. al. and any of the other references of record.

A copy of PTO-1449 will be included in this Office action. A number of references have been cited on PTO-892 by the Examiner as background art only. The claimed limitations fully distinguish over the teachings of these cited references.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian M. Healy whose telephone number is (571)0272-2347. The examiner can normally be reached on Compressed schedule Tues-Thurs. 7AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571)272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Brian M. Healy**  
**Primary Examiner**  
**Art Unit 2883**

\*\*\*



**Brian Healy**  
**Primary Examiner**